



PQ-18 Heating welder





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0 Introduction

The PQ-18 heating welder is a device that welds thermoplastic round belts. Ends are joined by chamfer welding: the ends of the belt are melted, pressing them against a precision-regulated hot welding plate. After being suitably heated, the ends are pressed against each other with a set pressure and left to cool. After the burr on the tip of the joint is removed with a blade or rectified, an excellent quality round belt is obtained.

The PQ-18 welder is suited for on-site installation or for medium/small mass production in a workshop.

PQ-18 is used indistinctively to indicate models:

- PQ-18/6 for 120 V power voltage
- PQ-18/8 for 230 V power voltage

1 General information

1.1 Application

The PQ-18 heating welder has been specifically designed for rapid and safe welding of thermoplastic round belts up to a diameter of 15 mm / 0.6 in.

The PQ-18 welder is manufactured according to recognized engineering principles and state-of-the-art technology, and complies with applicable regulations.

	<p>These operating instructions imply that all assembly, maintenance, and repair work, as well as operation of the heating welder device, be carried out by skilled personnel or monitored by responsible specialists.</p> <p>For reasons of scope, these instructions cannot cover all possible aspects of operation, maintenance, or repair. The indications given herein refer to the use of the machines according to their designated purpose by skilled personnel.</p> <p>In case of doubt or if further detailed information is required, please consult the manufacturer.</p>
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1.2 Important safety terms

Symbols **ATTENTION** and **NOTE** were included in this manual.
These symbols indicate hazards or special instructions to be observed.

	<p>WARNING</p> <p>Serious injury and/or serious material damages may ensue if ignored.</p>
	<p>INDICATION</p> <p>Indicates important technical information that may not be known to even expert personnel.</p>



1.2.1 General warnings



Read all hazard warnings and operating instructions.

Failure to observe the hazard warnings and operating instructions may lead to electrical shock, fire and/or serious injury hazards.

The device power plug must be suited to the socket. Strictly avoid modifying the plug. Do not use adapter plugs. Unmodified plugs and sockets suited for the purpose reduce electrical shock risks.

Store the tool away from rain or humidity. Water penetration in the tool increases electrical shock risk.

Do not use the cord for purposes other than those intended and, specifically, do not use it to transport or hang the device and do not pull on it to unplug the tool.

Keep the cord away from heat, oil, sharp corners and machine parts in motion. Damages and tangled cords increase electrical shock risks.

1.2.2 Personnel safety

Never use the tool when tired or under the influence of drugs, alcohol or prescription medicine.

Always wear personal safety devices as well as protective gloves.

When the tool is not used, keep out of reach of children. Do not allow untrained personnel or personnel who have not read these instructions use the tool.

1.2.3 Improper use

The PQ-18 heating welder was exclusively designed for the applications described in this user manual. Inappropriate use or application for purposes other than those described in the manual are inadmissible.



Habasit is not liable for the consequences due to improper use.

Observe all the machine assembly, operating and maintenance indications as well as technical specifications! This will prevent any personal or property problems and/or damages.

QUALIFIED PERSONNEL means people authorised to perform the required operations.

These people have been sufficiently trained and have acquired experience in their field that lets them recognise and avoid hazards. They are aware of specific safety provisions and regulations.

1.3 EC declaration of conformity

The PQ-18 welder uses a 120Vac or 230Vac version welder, EC certified by the manufacturer.



1.4 Supply conditions

Qty.	Item	Code
1	Welder 1x230V~ EURO per PQ-18/8	H08N060924
1	Welder 1x120V~ USA per PQ-18/6	H08N060925
1	Guiding tongs with PQ-18/0 holding device	H080690240
1	Operating instructions	

1.5 Available accessories



Also refer to chapter “REQUIRED ACCESSORIES”.

- Cutting device S-16 (H080690010).



Figure 5: Cutting device S-16



2 General machine description

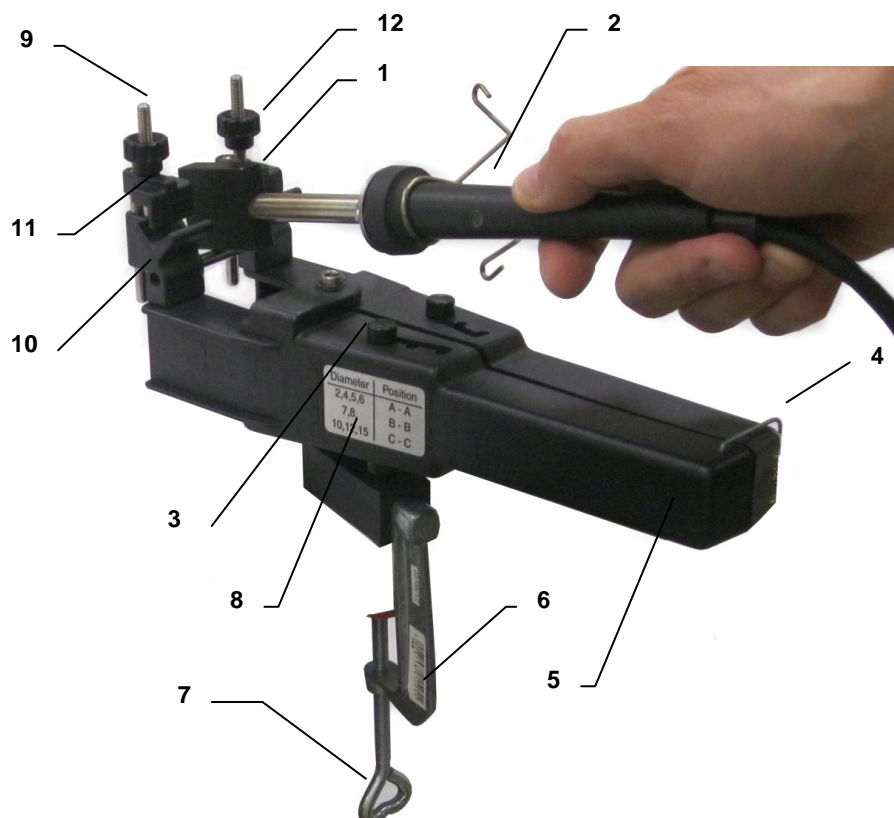


Figure: 1 Overall view

Pos.	Description
1	HEATING PLATE
2	WELDER
3	LOCKING SPRING
4	SECURING BRACKET
5	GUIDING TONGS
6	HOLDING DEVICE
7	CLAMPING SCREW
8	RATING PLATE
9	AXLE PIN
10	GUIDE BAR
11	GUIDE HEAD
12	KNURLED NUT



Figure 2: Polycord joint with bead



Figure 3: Polycord joint after grinding



3 Technical Specifications

Characteristics	UM	Value
▪ ELECTRICAL DATA		
- Rated power voltage	Vac	1x230 V 50/60 Hz (PQ-18/8) 1x120 V 50/60 Hz (PQ-18/6)
- Total installed power	W	80
▪ PRODUCTION		
- Belt diameter	mm [inc]	2÷15 [0,08 ÷ 0,6]
- Max Temperature	°C [°F]	250 [482]
- Max. deviation of plate temperature	°C [°F]	± 10 [± 18]
- Preheating time	[min]	15
▪ DIMENSIONS		
- Dimensions (<i>length x width x height</i>)	mm [inc]	420L x 140W x 115H [16,5L x 5,5W x 4,5H]
▪ WEIGHT		
- Net weight	kg [lbs]	0,68 [1,50]



4 Operating mode

The heating power and the output control of the welder [2], in combination with the heating plate [1], are optimally adapted to the energy requirement for butt-end welding of thermoplastic round belts.

The design of the guide heads [11] on the guiding tongs [5], which is adjustable in 3 positions makes it possible to join the ends of thermoplastic round belts under approximately optimum joining pressures. The label on the guiding tongs [5] indicates the spring position for the relevant thermoplastic round belt diameter..

The holding device [6] facilitates handling. With a corresponding number of guiding tongs [5] and holding devices [6], efficient production in series is possible.

5 Getting started

Make sure the voltage specified in chapter “TECHNICAL SPECIFICATIONS” corresponds to connected mains voltage



A tool marked 230 V can also be connected to the 220 V mains.
Similarly, for the 120 V version, 110 V power is tolerated.

- Clamp holding device [6] to work table by means of clamping screw [7].
- Place guiding tongs [5] on Holding device.
- Check parallel adjustment of welding plate to flat support area of handle of welder [2]. When laid down on a table, the welding plate may not touch the supporting table.
- Make sure the voltage specified on the rating plate corresponds to connected mains voltage.
- Make sure the heating plate [1] are clean.
- Connect the welder [2] to mains and place it on a sufficiently flat surface. Respect preheating time of 15 min.
- Check temperature of the heating plate. The temperature is preset at the factory at 250 °C / 482 °F.



WARNING

Do not touch the hot zone!
Keep device away from water and meltable substances.



Do not suspend the welder [2] from its cable with the heating plate [1] swinging. The heat rising from the heating plate [1] may destroy the welder [2] electronic regulator.. If need be (e.g. when joining a belt in a machine), bend a wire into a support hook, from which you can hang the welder by the welding plate.



6 Welding of round belts

Procedure: refer to the Habasit Polycord joint guide.

- Cut thermoplastic round belt to length at right angles with cutting device S-16 (available accessories). Refer to the Habasit guide to determine belt length
- Lock locking spring [3] in appropriate position.
- Open guiding tongs [5] and secure them by closing the bracket [4].
- Open guide heads [11] by turning the knurled nuts [12].
- Introduce belt ends laterally into guide heads [11] and let ends protrude $2\div 4$ mm / $0,08\div 0,16$ in., depending on diameter (larger diameters to protrude more).
- Fix belt ends by turning knurled nuts [12].



INDICATION

Fix belt without twisting, i.e. according to its „inner disposition“!

- Introduce welder [2] with heating plate [1] between guide heads 11].
- Free securing bracket [4] and carefully close guiding tongs [5].
- Let belt ends melt until the bead measures about 1-2 mm / $0,04\div 0,08$ in., depending on belt diameter.
- Then block the handles of the guiding tongs [5], by hand, so that the guiding tongs [5] can not close any further. This makes the belt ends stay in contact with the heating plate but without pressure (about 5-10 s, depending on the diameter of the belt). This permits the belt ends to melt to the core without further enlarging the bead.



WARNING!

Accidental contact between the belt and hot blade surface may generate fumes harmful to health.

Do not inhale vapours generated during welding. Only weld thermoplastic belts in suitably aerated rooms!

The installation of suitable exhaust devices and/or personal protection equipment must be assessed by the user based on work site characteristics and current local laws

- Slightly open the guiding tongs [5] by pressing the handles.
- Pull out the welder [2] and place it on a flat table. At the same time, carefully close guiding tongs [5] (joining the two melted sections).



WARNING

Do not touch the hot zone of the welder!

Keep device away from water and meltable substances.

- Let joint cool in guiding tongs [5] for about 1-2 min.
- Open Guide head [11] by loosening the knurled nuts [12] and remove joined belt.
- Open guiding tongs [5] and lock securing bracket [4].
- Whenever the welder is not in use, pull out mains plug.
- Remove bead with pliers, file or grinding disk.



WARNING

After use, disconnect the welder from the power supply and allow it to cool completely before storing it.



7 Maintenance

Always keep the welding device clean. Clean the heating plate [1] regularly and remove all material residues. Clean the heating plate [1] while heated with a cotton cloth.



Unplug the welder from the mains before cleaning with a water or alcohol dampened cloth.



Burning hazard! Fold cotton cloth in several layers to assure good insulation!. Do not touch hot surfaces!



Never clean heating plate [1] with hard objects (such as screwdrivers, spatulas etc.)! This will damage the Teflon coating.

Check guiding tongs [5] for smooth running. If necessary clean and very slightly oil axle pin [9] and guide bar [10].

Periodically inspect the welder power supply cable and connector plug for defects (insulation damage, etc.) and rectify or replace with the correct type where necessary.

7.1 Measuring of the plate temperature

Check the operating temperature of the hot-pressing device once a month. Carry out this check in an interior room in a draft-free environment with an ambient temperature of between 18 °C and 25°C.

- Heat up the welder for at least 15 minutes.
- Hold sensor of temperature gauge against the heating plate [1]
- The temperature gauge ought to indicate $250^{\circ}\text{C} \pm 10^{\circ}\text{C}$ / $482^{\circ}\text{F} \pm 18^{\circ}\text{F}$.
- Should plate temperature vary more than $10^{\circ}\text{C}/18^{\circ}\text{F}$, replace the welder with a new one.

7.2 Replacement of the power cord

Check power cord periodically. In case of damage replace with the same type (H05-RNF). To make sure only skilled staff will do this repair, special tools are required for this operation.



All work on the hot-pressing device involving electrical parts has to be carried out by the respective specialists only.
Observe your local laws about required training of such personnel.

7.3 Accessory/spare part orders

Spare parts and accessories can be directly ordered from the manufacturer at the following address:



Habasit Italiana S.p.A.

Via del Lavoro, 50.

31016 CORDIGNANO (TV) - ITALY

Phone: +39 0438 9113

Fax: + 39 0438 912374

E-mail : info@habasit.it

Internet : www.habasit.com

Please clearly specify ordered part codes.

Enter codes based on Drawings, see chapter “SPARE PARTS” and, if possible, the power voltage required for mains connection.



The use of other branded spare parts that do not meet Habasit specifications is prohibited.
Habasit is not liable for the use of non-original Habasit spare parts.

7.4 Warranty

All tools are subject to attentive final inspection. They are guaranteed free of material and factory defects for 1 year provided they are used correctly.

7.5 Technical consulting

Our experts are available for all consultations. For technical questions concerning Hot-pressing device operations and conditions, contact the manufacturer at the address listed above.



8 Dismantling and scrapping

The press must be uninstalled by HABASIT Assistance Service technicians or authorized HABASIT technicians with experience in:

- Machine assembly/disassembly
- Assembly/disassembly of the electrical, pneumatic and hydraulic plant, consulting the corresponding diagrams.

Generally the machine is decommissioned and dismantled when replaced.

This operation may be performed by specialised companies or the owner; in any case, current regulations must be observed.

If demolished by the user's personnel, the various parts must be separated by type and specialised (and authorised) companies employed for the disposal of the various products.

We would like to remind you that the most important materials used in machine construction are:

- Steel
- Aluminium
- Electrical wires
- Plastic materials
- Rubber

	<p>Habasis Italiana Spa has adopted suitable measures to reduce the disposal of RAEE generated by the use of AEE incorporated in its machines in order to reduce RAEE as mixed solid waste to a minimum, to ensure the correct processing and high level of RAEE separate waste collection.</p> <p>Habasis collects the RAEE generated by its production, maintenance and customer service activities as per Directive 2012/19/EU article 13.</p> <p>In order to reduce the presence of hazardous substances when recycling new AEE, Habasis requests suppliers comply with Directive 2012/19/EU and accompany AEE with an explicit declaration of conformity to Directive 2002/95/EC (RoHS).</p>
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	<p>This machine was designed and constructed with recyclable materials and components.</p> <p>If demolished by the customer's staff, the various components must be separated by type.</p> <p>RAEE must be collected separately (art. 3-h) and discarded according to art. 6 in directive 2012/19/EU.</p>
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WARNING!

Before carrying out any kind of work on the machine it is essential to ensure that the electrical system is disconnected from energy supplies.



9 Customer service

For any further clarifications, contact Habasit Italiana S.p.A. customer service at the following address:

Habasit Italiana S.p.A.

Via del Lavoro, 50.

31016 CORDIGNANO (TV) - ITALY

Phone: +39 0438 9113

Fax: + 39 0438 912374

E-mail : info@habasit.it

Internet : www.habasit.com

Product liability, application considerations

The proper selection and application of Habasit products, including the related area of product safety, is the responsibility of the customer.

All indications / information are recommendations and believed to be reliable, but no representations, guarantees, or warranties of any kind are made as to their accuracy or suitability for particular applications. The data provided herein are based on laboratory work with small-scale test equipment, running at standard conditions, and do not necessarily match product performance in industrial use. New knowledge and experiences can lead to modifications and changes within a short time without prior notice.

BECAUSE CONDITIONS OF USE ARE OUTSIDE OF HABASIT'S AND ITS AFFILIATED COMPANIES CONTROL, WE CANNOT ASSUME ANY LIABILITY CONCERNING THE SUITABILITY AND PROCESS ABILITY OF THE PRODUCTS MENTIONED HEREIN. THIS ALSO APPLIES TO PROCESS RESULTS / OUTPUT / MANUFACTURING GOODS AS WELL AS TO POSSIBLE DEFECTS, DAMAGES, CONSEQUENTIAL DAMAGES, AND FURTHER-REACHING CONSEQUENCES

This use and maintenance manual and its attachments are translated from original language (Italian).



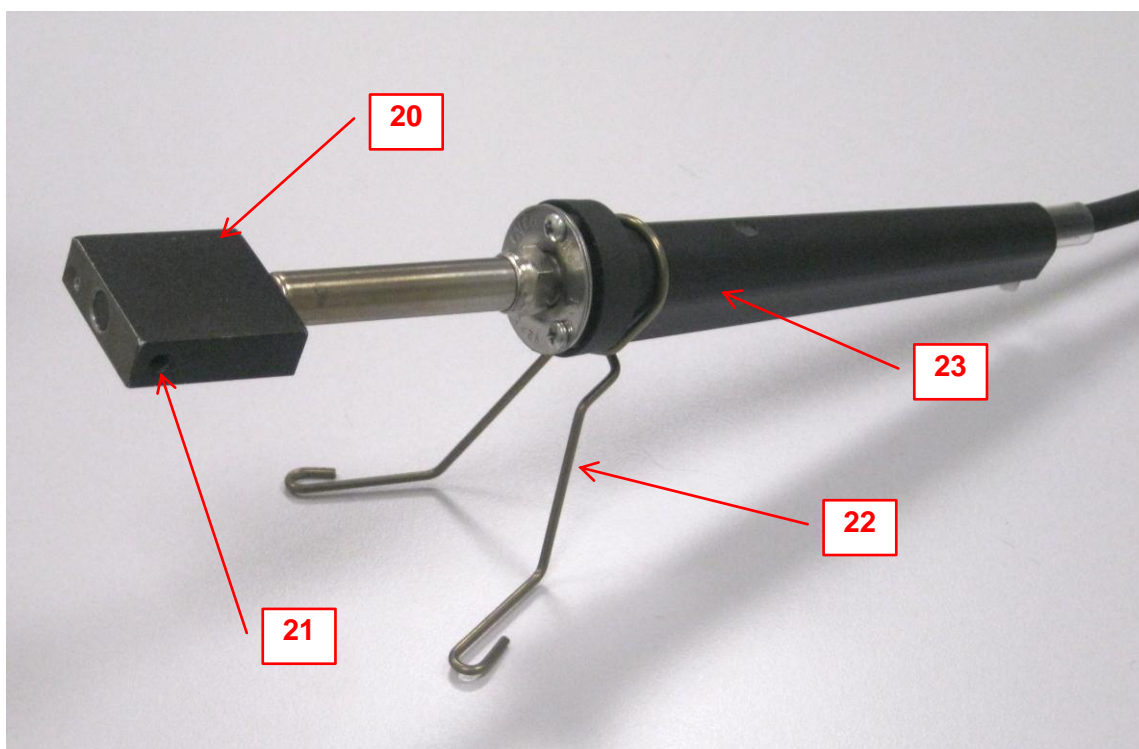
PQ-18 Heating welder





10 Spare parts list

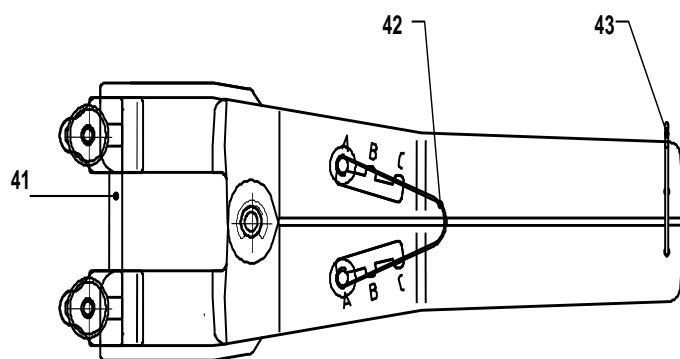
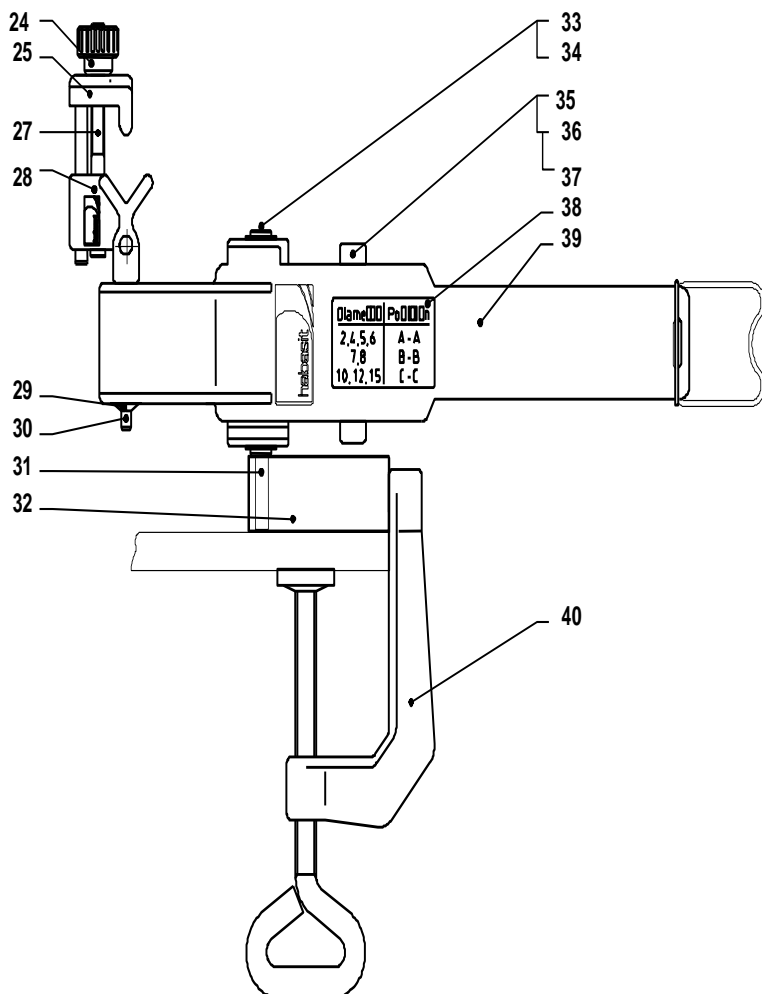
10.1 Welder



WELDER		
POS.	CODE	DESCRIPTION
20	H080700024	TEFLON COATED PQ-18 HEATING PLATE
21	H080701015	M4X8 FLAT-TIPPED GRUB SCREW
22	H08N060926	PQ-18 WELDER CABLE SUPPORT
23	H08N060925	WELDER 120 Vac PLUG SOCKET USA
23	H08N060924	WELDER 230 Vac PLUG SOCKET EURO



10.2 Guiding tongs with holding device





H080690240 LOCK CLAMP			
POS.	Q.TY	CODE	DESCRIPTION
24		H080700534	M4 KNURLED KNOB
25		H080702021	PQ-18 BELT CLAMP CLOSING HOOK
27		H080700029	PQ-18 BELT CLAMP GUIDING PIN
28		H080702020	PQ-18 BELT CLAMP GUIDING LOCK
29		H080701021	PIN LOCK ELASTIC RING
30		H080701019	AXLE PIN
31		H080701018	PIN
32		H080702022	TABLE SECURING BRACKET
33		H080700025	PIN CD-60/CD-61/PQ-18
34		H080701022	ELASTIC RING SEEGER DIN6799 GR6
35		H080701017	CYLINDRICAL PIN 4X50 ISO2338
36		H080700027	PQ-18 PRESS PIN PLUG
37		H080702516	Ø 4MM O-RING
38		H080708035	RATING PLATE
39		H080702019	HANDLE CD-60/CD-61/PQ-18
40		H080700529	HOLDING DEVICE
41		H080701016	CYLINDRICAL PIN ISO2338 5X60 H8
42		H080700026	LOCKING SPRING
43		H080700028	SECURING BRACKET



11 Required accessories

11.1 Cutting device

The cutting device S-16 is a manual cutting tool to cut thermoplastic round belts to the required length before the Quickmelt joining procedure takes place.

The S-16 allows to perform a proper right-angled cut up to 15 mm/0.6 in. diameter.



Figure 5



12 A1 - Preventive maintenance checklist

Job positions: A: Machine operator
B: Maintenance technician

Work to be performed (for additional information and reference numbers, see user manual)	Daily	Frequency Periodic (monthly)			Spare part code Evaluation criteria
		1	6	Note	
1. Cleaning					
1.1 Clean the device after use removing residue deposits	A				
2. Inspect the power cord					
2.1 Inspect the cord and plug to ensure there are no defects		B			Insulation damaged, Defective connections
3. Measure heating plate temperature					
3.1 Proceed as thoroughly indicated in user manual chapter "MAINTENANCE"		B			

Observations and notes:



13 A2 - Preventive maintenance summary sheet

Machine type:

Machine nr.:

Start date:

Actions – see checklist (daily unrecorded work)	check	completed		check	completed		check	completed		check	completed	
	next	approval	date	next	approval	date	next	approval	date	next	approval	date
2.1 Check for cord damages												
3.1 Measure heating plate temperature												

Observations, repairs: